Work Order ID 57025

March 17, 2010 10:40:21 AM

Required Date: 05/04/2010



Page 1

Item ID:

D212-664-201

Accept

Setup Start

Stop



Revision ID:

Item Name:

Crosstube Aft

Start Date:

17/03/2010

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

QC:

Date:

Tooling:

Date:

Date:

Start Run

Reject

Qty

Stop

Sequence ID/ **Work Center ID**

Operation Description Set Up/ **Run Hours**

SPC (Y/N):

Draw Number Draw Plan Rev. Code

Accept Qty

Reject

Insp. Number Stamp

Draw Nbr

Revision Nbr

D212-664-241 Rev D

100

DC

DOCUMENT CONTROL

Memo

0.00

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-201

110

Packaging Packaging

Pick Kit

Packaging

Memo

0.00 0.00

120

CNC Bend 2

BENDING MACHINE - CROSSTUBES

Memo

CNC Alpha 160 Bender

0.00

0.00

Bend tube as per Dwg D212-664-241 using CNC bender program 212-af and Folio FT007

Dart	Aeros	pace	Ltd
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W/O:	· · · · · · · · · · · · · · · · · · ·		W	ORK ORDER CHANGE	ES		1010		
DATE	STEP	PRO	OCEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No	:	PAR #:	Fault Cat	egory:	NCR: Yes	No DQ	A:	_ Date: _	
	R	esolution:						Date:	
NCR:			WORK ORE	DER NON-CONFORMA	NCE (NCF	R)			
DATE	STEP	Description of NC	Corrective Action Section E			Verific	ation	Approval	Approval
	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	Secti		Chief Eng	QC Inspector	
						_			,,,,,
NOTE: D	ate & initi	ı al all entries				l. <u></u>			

March 17, 2010 10:40:21 AM

Required Date: 05/04/2010

Item ID:

D212-664-201

Accept



Setup Start

Stop



Revision ID:

Item Name:

Crosstube Aft

Start Date:

17/03/2010

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:____

Run

Stop



Sequence ID/ **Work Center ID**

130

140

Crosstubes Crosstubes

Operation Description

OC15- Crosstube Dimensional Check

Set Up/

Run Hours

Draw Number

Draw Rev.

Plan Code

Accept Oty

Reject Qty

Reject Insp. Number Stamp

Quality Control

Memo

0.00

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551

2-Ream hole to finish size in tube as per Dwg D212-664-241using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

4-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-

W/O:		***	W	ORK ORDER CHANG	GES				*
DATE	STEP	PR	OCEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	·	PAR #:	Fault Cat	egory:	NCR: Yes	No DQA	l :	Date:	
Part No: PAR #:	solution:	Dispositi	on:	QA: N/C Cld	osed:		Date: _		
NCR:			WORK OR	DER NON-CONFORM	ANCE (NCR)			
DATE	STEP	Description of NC	Initial	etion B	Verification			Approval	
		Section A	Chief Eng	Action Description Chief Eng	Date	Section	n C	Chief Eng	QC Inspector
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						,			

Work Ord												Page 3
Item ID: Revision ID: Item Name: Start Date: Required Date Reference:	D212-664-2 Crosstube Aft 17/03/2010	01		II	Cust Item Customer:				Setup	Start Stop	1 18811181	
Approvals:	00	an:	Date:	Tooling: SPC (Y/N):		ate:			Run	Start Stop		
Sequence ID/ Work Center I 150 HandFXtube Hand Finishing Cro		Operation Description Crosstubes Chemical Co Memo Chemical Co		Set Up/ Run Hours 0.00 0.00 0.00 in 24 hours of bending and drill		Draw Rev.	Plan Code	Accept Qty	t Rej Qty		Reject Number	Insp. Stamp
160 QC Quality Control		QC3- Inspect Part Finish Memo		0.00 کرماں	إداد							

170 || || || || || || || || || || || QC

Memo

QC5- Inspect part completeness to step on W/O

0.00

0.00

Quality Control

Dart	Aerospace	Ltd

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W/O:			W	ORK ORDER CHANG	ES	7,1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	• ,	
DATE	STEP	PR	OCEDURE CHA	NGE	By Date Qty Approval Chief Eng / Prod Mgr			Approval QC Inspector
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			-2-100					
Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:	Date: _	
Resolution:								
NCR:			WORK ORD	ER NON-CONFORMA	NCE (NCF	R)		
DATE	STEP	Description of NC	Corrective Action Section B			Verification	Approval	Approval
DATE	STEP Section A	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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March 17, 2010 10:40:21 AM

Required Date: 05/04/2010

Item ID:

D212-664-201

Accept

Accept

Qty

Setup Start

Stop



Revision ID:

Item Name: Crosstube Aft

17/03/2010

Start Qty: 1.00

Reg'd Qty: 1.00

Cust Item ID: Customer:

Reference:

Start Date:

Approvals:

Process Plan:

Date:

Outsource process - NDT per QSI038 4.1

Tooling:

Set Up/

0.00

0.00

Run Hours

Date:

Draw

Number

Start Run

Reject

Oty



Operation

Description

Date: _____ SPC (Y/N):

Date:

Draw

Rev.

Plan

Code

Stop

Reject

Number Stamp

Insp.

Sequence ID/ **Work Center ID**

180

Outsource2

Outsource process - NDT

Memo

Liquid Penetrant Inspection as per QSI 038 Issue P/O: 11593

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

190

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

0.00

Ensure copy of NDT results attached to work order.

200

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect for damage & ensure results are as per Dwg D212-664-241

CZ 10/4/06 (1)

m/ 10 04 07 (1)

120/4/ 6 (1__

W/O:			· · · · · · · · · · · · · · · · · · ·	DI ODDED CHANG				• •				
W/O.		WORK ORDER CHANGES										
DATE	STEP	PR	OCEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
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Part No	:	PAR #:	Fault Cate	jory:	_ NCR: Yes I	No DQA:	·	Date:				
Resolution: Disposition: QA: f												
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCR)							
DATE	STEP	Description of NC	Description of NC Corrective Action			Verifica	ation	Approval	Approval			
	SILF	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section		Chief Eng	QC Inspector			

Work Order ID 57025

March 17, 2010 10:40:21 AM

Required Date: 05/04/2010



Page 5

Item ID:

D212-664-201

Accept



Draw

Rev.

Plan

Code

Setup Start

Stop



Revision ID:

Item Name:

Crosstube Aft

Start Qty: 1.00 17/03/2010

Req'd Qty: 1.00



Cust Item ID: Customer:

Draw

Number

Reference:

Start Date:

Approvals:	Process Plan:	Date:	Tooling:	 Date:
	QC:	Date:	SPC (Y/N):	 Date:

Run Start

Reject

Qty

Accept

Qty.

Stop

Insp.

Stamp

Reject

Number

Sequence ID/ **Work Center ID**

210



Spray Painting

Operation Description

Spray Painting per QSI005 4.2

SprayPaint

Memo

1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 830 Fininsh Time:9:30

PAINT:

Start Time: 2. かい Finish Time: 31

220

QC14- Inspect Spray Paint

0.00

Set Up/

0.00

0.00

Run Hours

Quality Control

Memo

0.00

Then, Wrap in plastic bag to protect from scratches

80- YO - O)

Dart Aerospace L	.ta
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W/O:			W	ORK ORDER CHAN	GES					<u> </u>
DATE	STEP	PRO	OCEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
· ·						-				
Part No	•	PAR #:	Fault Cate	egory:	NCR: Y	es N	o DQ /	A:	Date:	
Part No: PAR #: _	esolution:									
NCR:			WORK ORD	ER NON-CONFORM	MANCE (N	CR)				
DATE	STED	Description of NC	Description of NC Corrective Action			Section B Verifi			Approval	Approval
DAIL	SILF	Section A	Initial Chief Eng	Action Description Chief Eng		ın & ate	Section C		Chief Eng	QC Inspector

Work Order ID 57025

March 17, 2010 10:40:21 AM

Required Date: 05/04/2010



Page 6

Item ID:

D212-664-201

Accept

Setup Start

Stop



Revision ID:

Item Name: **Start Date:**

Crosstube Aft

17/03/2010

Start Qty: 1.00

Req'd Qty: 1.00

Cust Item ID: Customer:

Draw

Reference:

AD	provals:	

Process Plan: ____ Date: ___

Tooling:

SPC (Y/N):

Date:

Date:

Start

Stop

Sequence ID/ **Work Center ID**

230

Crosstubes

Crosstubes

Operation Description

Set Up/ **Run Hours**

Draw Number Rev.

Plan Code

Accept Qty

Reject **Qty**

Run

Reject Number Stamp

Insp.

Crosstubes

Memo

QC: ____ Date: ____

0.00

0.00

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs

6398 Magnobond

Batch: 114021

Expiry Date: 11/01/28

3-Install clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb.



240

QC5- Inspect part completeness to step on W/O

0.00

Quality Control

QC

Memo

0.00

Dart Aerospace Ltd	Dart	Aeros	pace	Ltd
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W/O:			WC	RK ORDER CHANGE	S		<u> </u>	
DATE	STEP	PR	PROCEDURE CHANGE			Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No		PAR #:						
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NCR:			WORK ORDI	ER NON-CONFORMA	NCE (NCR			
DATE	DATE STEP Description of NC		Initial	Corrective Action Section B			1 Approval	Approval
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Work Order ID 57025

March 17, 2010 10:40:21 AM

Required Date: 05/04/2010



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Item ID:

D212-664-201

Accept

Setup Start

Stop



Revision ID:

Start Date:

Item Name:

Crosstube Aft

17/03/2010

Start Qty: 1.00

Req'd Qty: 1.00



Date:_____

Cust Item ID:

Customer:

Draw

Number

Reference:

Process Plan:

Date: ____

Tooling:

SPC (Y/N):

Set Up/

Date:

Draw

Rev.

Date:

Run

Stop

Sequence ID/ Work Center ID

250

Packaging

Operation Description

Pick Kit

Run Hours

0.00

Start

Packaging

260

QC

Quality Control

QC: _____

Memo

0.00

Plan Code

Accept Qty

Reject Qty

Reject Insp. Number Stamp

QC4- 100% Inspect kits for completeness

Memo

0.00

0.00

270

Packaging

Packaging

Memo

0.00

0.00

Packaging

Identify and pack for shipping as per PPP D212-664-201

(luf4/9())

	Dart	Aeros	pace	Ltd
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W/O:			WC	ORK ORDER CHANG	ES			, ,	
DATE	STEP	PRO	PROCEDURE CHANGE			Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Cate	gory:	_ NCR: Yes	No DQ	A:	_ Date: _	
				Disposition: QA: N/0					
NCR:			WORK ORDI	ER NON-CONFORM	ANCE (NCR)			. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
DATE STEP De		Description of NC			ion B	Verific	ation	Approval	Approval
		Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Secti	on C	Chief Eng	QC Inspector
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March 17, 2010 10:40:21 AM



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Item ID:

D212-664-201

Accept



Setup Start

Stop



Revision ID:

Item Name: Crosstube Aft

Required Date: 05/04/2010

17/03/2010

Start Qty: 1.00

Memo

Req'd Qty: 1.00



Cust Item ID: Customer:

Reference:

Start Date:

Approvals:	Process Plan:QC:	Date: Tooling: SPC (Y/N):			Date:			Run Start			
Sequence ID/ Work Center I	Operation D Description		Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
280	QC21- Final Insp	pection - Work Order Release	0.00				- •	H	· 10.04	.હી	
QC	Men	no	0.00						· -		

Quality Control

h 10°04.09

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W/O:			WO	RK ORDER CHANG	GES				
DATE	STEP	PRO	OCEDURE CHAI	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No		PAR #:							
	Re			Disposition: QA: N/C (Date: _	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCR)			
DATE	STEP	Description of NC					ation	Approval	Approval
		Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section	on C	Chief Eng	QC Inspector
							:		

Picklist Print

March 17, 2010 10:40:25 AM

Work Order ID: 57025

Parent Item: D212-664-201

Parent Item Name:

Crosstube Aft

Comments:

IPP Rev:E□04.02.16□Reformat□K/DS

IPP Rev:F 06-03-29

Remove Coments on Pick List JLM

IPP Rev:G 07-04-30

IPP Rev:H 08-05-22

As per Rev C JLM

up date Qty of rubber cushion DD verified by:EC

D212-664-201TRN

Manufactured

No

No

110

Each

3.0000

Loc Code

1.0000

Start Qty: 1.00

Crosstube Turning Detail

Warehouse	<u>Lo</u>	c Qty
Location		
Main Warehouse		
FG		3
46386		1
53559		1
53560		1
	230	Each

132.0000 2.0000

D3595-063-530 Manufactured

RUBBER CUSHION

Warehouse Location	Loc Qty	Loc Code	M 10 04 0	
Main Warehouse			MM (10 04 0	8
ST	132			
40780	2			
44998	2			
50030	24			
51776	104			

Start Date: 17/03/2010

Required Date: 05/04/2010

Required Qty: 1.00

	•								•	, .
W/O:			WC	ORK ORDER CHANG	ES					
DATE	STEP	PR	PROCEDURE CHANGE			у	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	:									
Part No	•	PAR #:	Fault Cate	gory:	_ NCR: `	Yes N	lo DQ	A:	Date:	
	R	esolution:	Disposition	າ:	_ QA: N/	C Clo	sed:		Date:	
NCR:			WORK ORDI	ER NON-CONFORMA	NCE (N	(CR)				
DATE STEP		Description of NC	Corrective Action		on B		Verific	ation	Approval	Approval
		Section A	Initial Chief Eng	Action Description Chief Eng	I I	ign & Date	Secti	on C	Chief Eng	QC Inspector
										1250/12

Picklist Print

March 17, 2010 10:40:25 AM

Work Order ID: 57025

Parent Item:

D212-664-201

Parent Item Name:

Crosstube Aft

Comments:

IPP Rev:E□04.02.16□Reformat□K/DS

IPP Rev:F 06-03-29

Remove Coments on Pick List JLM

IPP Rev:G 07-04-30 IPP Rev:H 08-05-22

As per Rev C

JLM

up date Qty of rubber cushion DD verified by:EC

D2940-1

Manufactured No

Each

230

47.0000

2.0000

Start Date: 17/03/2010

Start Qty: 1.00

Support

Warehouse Location	Loc Oty	Loc Code	
Main Warehouse			
ST	47	•	
24367	4		
25594	2		
45203	1		
47748	20		
52752	20		_2

Page 2

Required Date: 05/04/2010

Required Qty: 1.00

	•								
W/O:			WO	RK ORDER CHAN	GES				· · · · · · · · · · · · · · · · · · ·
DATE	STEP	PROCEDURE CHANGE			Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
			100						
Part No	•	PAR #:	Fault Categ	jory:	NCR: Yes	No DQA	\:	Date: _	
Resolution:			Disposition	QA: N/C Cld					
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCR)			
DATE	STEP	Description of NC	Corrective Action Section B			Verification Section C		Approval Chief Eng	Approval
		Section A	Initial Action Description Chief Eng Chief Eng		Sign & Date				QC Inspector

Picklist Print

'March 17, 2010 10:40:25 AM

Page 3

Required Date: 05/04/2010

Required Qty: 1.00

Work Order ID: 57025

Parent Item:

D212-664-201

Parent Item Name:

Crosstube Aft

Comments:

IPP Rev:E□04.02.16□Reformat□K/DS

IPP Rev:F 06-03-29

Remove Coments on Pick List JLM

IPP Rev:G 07-04-30

IPP Rev:H 08-05-22

As per Rev C

JLM

up date Qty of rubber cushion DD verified by:EC

MS21920-28

Purchased

Manufactured

No

No

230

Each

154.0000 4.0000

Start Date: 17/03/2010

Start Qty: 1.00

Clamp(per MIL-DTL-8783C)

Warehouse	Lo	c Qty	Loc Code	
Location				
OFFSHORE				
FG		5		
105884		5		
Main Warehouse				
LG		149		
106864		5		
108466		9		
108847		7		
109181		14		
109965		2		
111281		2		
111734		6		
112624		4		
112863		50		
113776		50		
	250	Each	18.0000	1.0000

Placard

Warehouse Loc Qty Loc Code Location

Main Warehouse

ST056

18

18

55565

March 17, 2010 10:40:25 AM

W/O:			WO	RK ORDER CHAN	GES				•	<u> </u>		
DATE	STEP	PROCEDURE CHANGE					Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		
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				100								
												
Part No:		PAR #:	Fault Categ	Fault Category:			NCR: Yes No DQA: Date:					
	Resc	olution:	Disposition	:	QA: N/C Closed:				Date:			
NCR:			WORK ORDE	R NON-CONFORM	IANCE (N	ICR)						
DATE	STEP	Description of NC	NC Corrective Action Section B			Veritication			Approval	Approvai		
	Section A		Initial Action Descrip Chief Eng Chief Eng		Si L	Section C		Chief Eng	QC Inspector			
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						·						

Picklist Print

'March 17, 2010 10:40:25 AM

Work Order ID: 57025 Parent Item:

D212-664-201

Parent Item Name:

Crosstube Aft

Comments:

IPP Rev:E□04.02.16□Reformat□K/DS

IPP Rev:F 06-03-29

Remove Coments on Pick List JLM JLM

IPP Rev:G 07-04-30

IPP Rev:H 08-05-22

As per Rev C

up date Qty of rubber cushion DD verified by:EC

Page 4

Start Date: 17/03/2010

Required Date: 05/04/2010

Start Qty: 1.00

Required Qty: 1.00

MS21042L6

Purchased

No

250

Each

350.0000 6.0000

Warehouse Location	Loc Oty	Loc Code
Main Warehouse		
ST300	350	
105077	22	
110002	5	
111578	323	

AN960JD616

Purchased

No

250

Each

279.0000 18.0000



Warehouse	Loc Oty	Loc Code
Location		
Main Warehouse		
ST347	279	
112314	3	
112828	1	
113149	275	

									•
W/O:			WC	RK ORDER CHANG	ES				
DATE	STEP	PR	PROCEDURE CHANGE			Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	•	PAR #:	Fault Cate	gory:	_ NCR: Yes	No DQ	A :	_ Date: _	
	Res	solution:	Disposition	n:	QA: N/C Closed:			Date:	
NCR:			WORK ORDI	ER NON-CONFORMA	NCE (NCR)			
DATE	STEP	Description of NC	Initial Action Description		on B Sign &	Verific		Approval	Approval
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Picklist Print

March 17, 2010 10:40:25 AM

Page 5

Required Date: 05/04/2010

Required Qty: 1.00

Work Order ID: 57025

Parent Item:

D212-664-201

Parent Item Name:

Crosstube Aft

Comments:

IPP Rev:E□04.02.16□Reformat□K/DS

IPP Rev:F 06-03-29

Remove Coments on Pick List JLM

IPP Rev:G 07-04-30

IPP Rev:H 08-05-22

As per Rev C

JLM up date Qty of rubber cushion DD verified by:EC

AN6-40A

Purchased

No

250

Each

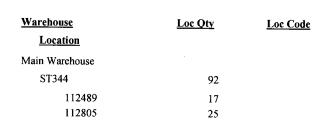
102.0000 4.0000

Start Date: 17/03/2010

Start Qty: 1.00

		Warehouse	<u>L</u>	oc Oty	Loc Code	
		Location				
		Main Warehouse				
		ST343		102		
		112612		1		
		112679		1		
		112828		50		
		113422		50		M/13422
Purchased	No		250	Each	92.0000	2.0000





50

113288

Dart Aerospace

W/O:		WORK ORDER CHANGES											
DATE STEP		PRO	PROCEDURE CHANGE					Approval Chief Eng / Prod Mgr	Approval QC Inspector				
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		PAR #:					· · · · · · · · · · · · · · · · · · ·						
			Disposition:					Date:					
NCR:			WORK ORE	DER NON-CONFORMA	ANCE (I	ICR)							
DATE	STEP	Description of NC Section A	Corrective Action S Initial Action Description		tion B Sign &		Verification		Approval				
		Section A	Chief Eng	Chief Eng		Date	Section C	Chief Eng	QC Inspector				
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DART AEROSPACE LTD	Work Order:	57025
Description: Crosstube High Aft (205/212)	Part Number:	D212-664-201
Inspection Dwg: D212-664-241 Rev:	a	Page 1 of 1

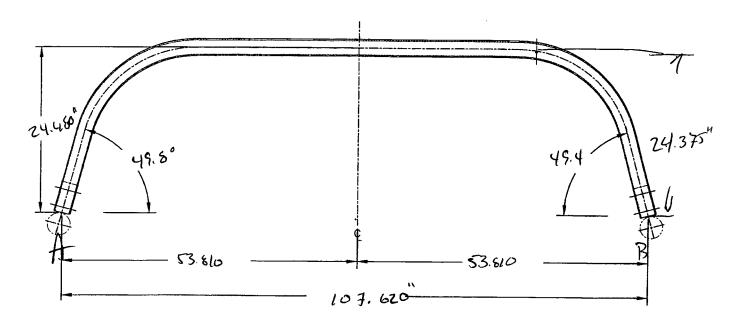
 Required Dimension
 Min
 Max

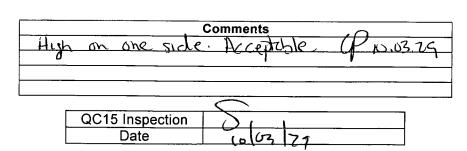
 Height
 24.17
 24.43

 1/2 Span
 53.59
 53.85

 Angle
 49
 52

 Total Span
 107.18
 107.70





Rev	Date	Change	Revised by	Approved
_ A	07.02.06	New Issue	KJ/JM	1
В	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM ox	ha
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Dart Aerospace Ltd	td
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W/O:	WORK ORDER CHANGES					ES							
DATE	STEP	PRO	OCEDURE CH	IANGE			Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		
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	R	esolution:	Disposit	ion:		QA: N/C Closed: Date:							
NCR:	2	\	WORK OR	DER NO	N-CONFORMA	ANCE	(NCR))					
DATE	STEP	Description of NC	Corrective Action Section B				Verificat		ation	Approval	Approval		
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Item	Qty -241	Qty -241B	Part Number	Description						
1	Х		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)						
2		Х	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)						
3	1	1	D6006-129	CROSSTUBE						
4	2	2	D2940-1	SUPPORT						
5	4	4	D3595-063-530	RUBBER CUSHION						
6	4	4	MS21920-28	CLAMP (OR MS21920-30)						
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)						

GENERAL NOTES:

8

1) MATERIAL: MANUFACTURED FROM D6006-129

FINISHED LENGTH = 124,362±0,020

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2 PAINT OUTSIDE PER DART QSI 005 4.2

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664)

D212-664-241B = 44.2 lbs (PER IIN-D212-664)

- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOPELY Colombia 4 1 2388873 6 UNCONTROLLED COMY SUBJECT TO AMERICAL ST KITCHOLT NOTICE

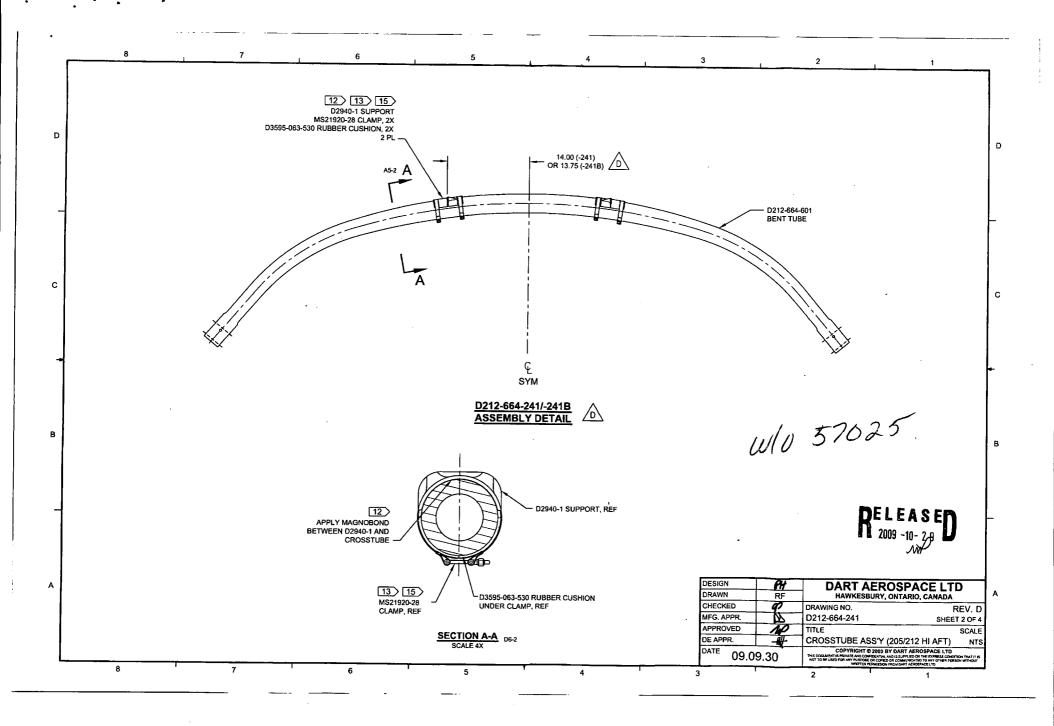
D	REORG TO CUP REMOV C6-3 & . A5-3); M	REFORMAT/REVISE GENERAL NOTES/PART LIST; REPORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -241B (ZN D4-2; B4-2); REMOVED REF & ADD TOLERANCES (ZN D4-3 & C4-3; REMOVED REF & ADD TOLERANCES (ZN D4-3 & C4-3; REJOCATED FLAG #6P FER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4 REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND								
С		VE -1009 ABR	PH	07.03.08						
В	ADD H SKIDTI	OLES FOR CO UBES	PH	05.02.04						
Α	NEW IS	SSUE	PH	00.12.12						
REV.			DESCRIPTION	BY	DATE					
DESIGN		PH	DART AEROSP	ACE	LTD					
DRAWN		RF	HAWKESBURY, ONTARI							
CHECKE	D	9	DRAWING NO.		REV. D					
MFG. AP	PR.	100	D212-664-241	S	HEET 1 OF 4					
APPRO\	/ED	10	TITLE		SCALE					
DE APP	₹.	#	CROSSTUBE ASSY (205/21	CROSSTUBE ASSY (205/212 HI AFT) NTS						
DATE 09.09.30			COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND COMPORTHAL AND IS SUPPLED ON THE EXPRESS CONCIDENT THAT IT IS NOT TO GE USED FOR ANY PURPOSE OR COPE OR COMMANDEATE TO PART OTHER PRESSON HYTHOUT WHITTER PURPOSED ON POWER DART PARTOPACE LTD.							

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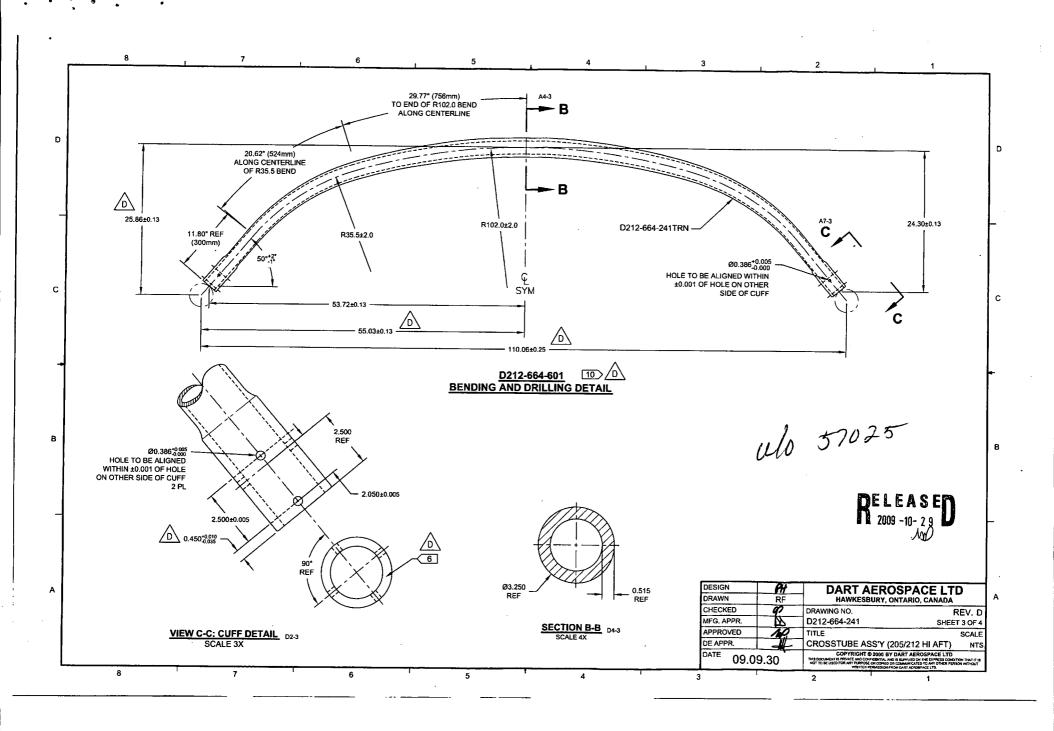
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W/O:			W	ORK ORDER CHANG	GES					•
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	Resolution:						•			
NCR:		V	VORK ORE	DER NON-CONFORM	ANCE (N	CR)				· · · · · · · · · · · · · · · · · · ·
DATE	STEP	Description of NC Section A	Initial	Section B on Sign &		Verification Section C		Approval Chief Eng	Approval QC Inspector	
			Chief Eng	Chief Eng	D	ate	Jectic		Office Ling	QC Inspector
										



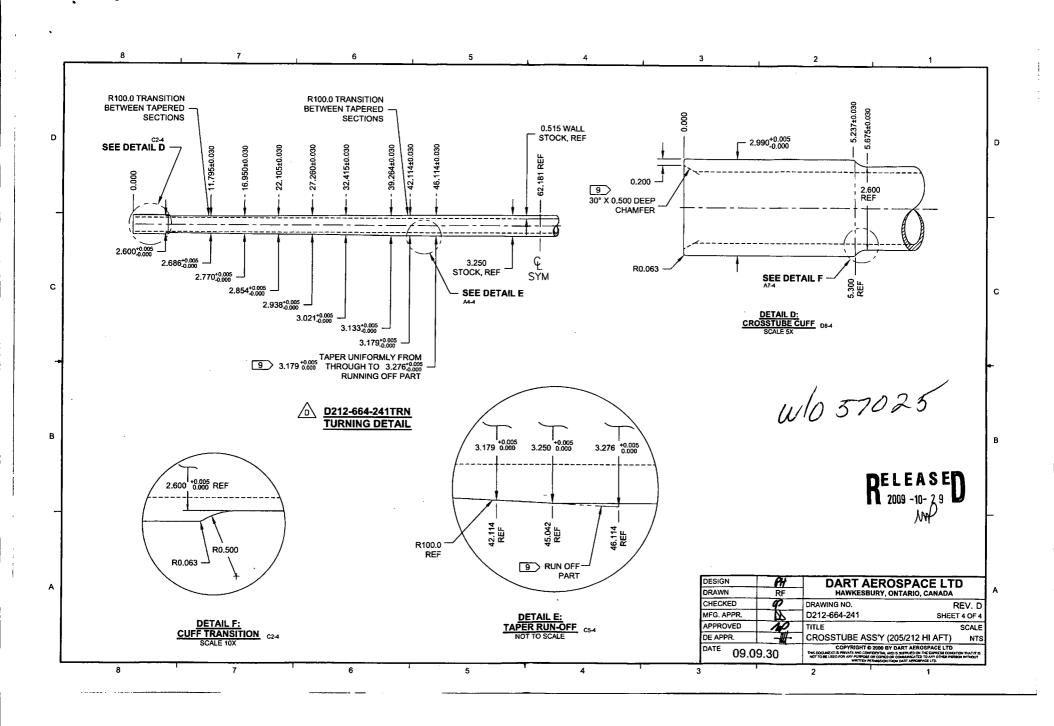
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W/O:		7	WC	RK ORDER CHANG	ES			•			
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DATE	STEP	Description of NC		on B	Verification	n Approval	Approval				
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Dart Aerospace Ltd	
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		olution:							
NCR:		,	WORK ORDE	R NON-CONFORM	ANCE (NO	R)	2 71	<u> </u>	
DATE	STEP	Description of NC			Section B Verifi			ation Approval	Approval
		Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Section		Chief Eng	QC Inspector
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W/O:		WORK ORDER CHANGES											
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Part No	•	PAR #:	Fault Categ	ory:	NCR: Yes	No DQ	\ :	_ Date: _					
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LIQUID PENETRANT TEST REPORT

P- 15321

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CLIENT	Dai	1 AEro:	STACE		DATE	Alen	6-2010	TIME	AM 🖭	PM □
ATTENTION	412	DA /C	4AN TEL		ACUREN JOB NO		88-10	<u>- 09</u>	43	
ADDRESS	1270	ABELDE	EN 57-		PO/WO No.					
	HAWKES	BULY O	N. KOH	1K7	WORK LOCATION	_U			BURT	
					ACCEPTANCE ST	D	TM 1417	REV./DA	TE	10 7
PROJECT		F. F	? <u>I</u>	يره_	CE055	TUBE	= 5			
ITEM(S) EXAMINED)			4Pcs						
JOB DESCRIPT	TION	PROCEDUR	E No. LTOUG	REV./DATE			No. LT-16th		TE	
Part No.							uminum Th			
SCOPE							LETILANT			
I.	NSFEC 11	on CA	CliED O	uT 10	00% E	+ TEX	NAC			
TEST DETAILS					T-/		D 0	101/40/ E	D Door	EMILI OLETE
METHOD		UORESCENT FLUX	☐ Visi	BLE	WATER WAS	H /EY TO	☐ SOLVENT REM ☐ OUTPUT > 100			EMULSIFIED NT < 2 fc
FAMILY BRAND PENETRANT	2 L 67		DWELLTIME 45	510 Min.	LIGHTING EQUIP.	□ FLASHLI	GHT 🖸 TROUBLELIG	нт 🛭 Оит	грит>100 fc	@ SURFACE
PENETRANT REM	OVER 4.20	MINIMUM I		>10 Min.		148 m C		CAL DI	JE DATE	
DEVELOPER TYPE	SKI) S		OWELL TIME	10 Min. DRY	LIGHT METER S/	N / O	98866		137 -	2010
DEVELOPER TYPE TEST SURFAC		AQUEUUS G F	100000	<u> </u>						
SURFACE CONDIT	TION AS G		☐ As Welde		MACHINED		T BLASTED		CLEAN BARI > 52°C/125	
	RATURE 3 < -4°		□ - 4°C/ 20°	F TO 10°C/50	°F	<u>⊠</u> 10°0	C/50°F TO 52°C/12	5°F U	> 52°C/125	· F
RESULTS-	(□ METI	RIC IMPERIA	AL)		1					
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	55 Tu BE-1									
	SSTUBE-0				6	(als)				
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Standard of Care In performing the serve	ices provided, Acuren Gre	oup Inc. uses the degree					such services in the same or		No other warra	nty, expressed or
SIGNATURES	ended by Acuren Group I	w.			, /	/	and the second s	****		
	CENTATIVE /	11041/2 1	Muzoveti	dien	Hi_ What	wash	DTR	# 5	-273	74
CLIENT REPRE		12/1/12/V/	INT INTERPRETATION		SIGNATURE	- 11/2 6	REPORT			
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,	CG	1" TEC SB LEVEL III	HNICIAN SNT LEVEL	CGSB t		NT LEVEL				
•		SB REG. NO	6066	CGSB I	REG. NO					



LIQUID PENETRANT TEST REPORT

P- 15321

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CLIENT	DAT ASWSTACE		DATE	Alen 6	-20,10	TIME AM	PM D
ATTENTION	LINDA / CHAN TE		ACUREN JOB NO	_		- 0745	
ADDRESS 12	TO ABELDEEN ST.		PO/WO No.	11593			<u> </u>
14Ac	skes Buly ON. KOH	1 600	Work Location	WAL	5 - 149.	ck=SBak	~
			ACCEPTANCE ST			_ REV./DATE	
PROJECT	E.P.I.	on	CESS				2007
ITEM(S) EXAMINED		4Pcs		1 0	<u> </u>		
		· · · · · · · · · · · · · · · · · · ·					
JOB DESCRIPTION	PROCEDURE NO. LTOUG	REV./DATE		TECHNIQUE NO	LT-1194.2	REV./DATE	
PART NO.			MATERIAL ÁLCÎ	INE ALLIN	4 : LUM THI	CKNESS	· · · · · · · · · · · · · · · · · · ·
SCOPE	WET FLOUR ES	1/20	1,0	A FENG	71007		
_ In STE	CTION CARRIED O	uT 10	0% E	+ TENA			
TEST DETAILS							
METHOD	☐ FLUORESCENT ☐ VISI		WATER WASH		SOLVENT REMO		OST EMULSIFIED
FAMILY BRAND MA PENETRANT 2 L	5NA FLUX 67 MINIMUM DWELL TIME 45	10 10	BLACK LIGHT S/N	16459 -	OUTPUT > 1000	μιW/cm² □ An	MBIENT < 2 fc
	/ 3 0		OTHER (13 FLASHLIGHT	I ROUBLELIGH	T 🔲 OUTPUT>10	0 fc @ SURFACE
DEVELOPER SKI	5.2 MINIMUM DWELL TIME	10 Min. I	LIGHT METER S/N		866	CAL DUE DATE	
DEVELOPER TYPE TEST SURFACE	Non Aqueous 🔲 Aqueous	DRY	'			MAY: 7	- 2010
	As GROUND AS WELDE	<u> </u>	Machined	☐ ,SHOT BL	AOTEO	7.0	
SURFACE TEMPERATURE		то 10°C/50°F			°F TO 52°C/125°	☐ CLEAN B F ☐ > 52°C/*	
RESULTS- (□ METRIC □ IMPERIAL)						
1 Closs Tue	8=-W.O. 56769 8=-W.O. 56768 8=-W.O. 57025 3=-W.O. 57024						
Scope of Services The agreement of Acuren Group Inc. to	perform services extends only to those services provided for pressions of opinion reflect the opinions or observations or	or in writing. Under n	o circumstances shall su	Will services extend box	out the preference of	the conversed against the	
representations or warranties. Acuren data or other information provided by a Standard of Care In performing the services provided, Ac implied, is made or intended by Acuren	Group Inc. is not assuming any responsibilities of the own waren Group Inc. In no event shall Acuren Group Inc.'s its wern Group Inc. uses the degree, care and skill ordinarity	reoperator and the ow ibility in respect of the	ca on injormation and a ner/operator retains coi services referred to her	issumptions supplied ir uplete responsibility fo vin exceed the amount	v the owner/operator an r the engineering, mana paid for such services.	d are not intended nor car facture, repair and use de	n they be construed as visions as a result of th
SIGNATURES			<u> </u>				
CLIENT REPRESENTATIVE	MATTERN MARGACTI	Majti	- AVVOLUE SIGNATURE	als I	DTR#	三 -,273	74
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	1° TECHNICIAN CGSB LEVEL SNT LEVEL	00001==	2° TECHNICIAN	,	ı	·	INITIALS
	CGSB REG. No.	CGSB LEVE		LEVEL	-		